

Hopewell Archeology:

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4. Survey and Excavations in 2004 at 33RO1059, by Ann C. Bauermeister

The Hopewell site (33RO27), with its extensive earthwork complex, is renowned as the type site for the Hopewell culture and has long been a focus for archeological research, beginning as early as 1845 with Squier and Davis. Recently, active erosion along the bank of the North Fork of Paint Creek has drawn attention to archeological resources located outside of the complex that are threatened by the encroaching stream. Site 33RO1059 is located south and east of the Square Enclosure in a formerly cultivated field flanked by Paint Creek on the south (Figure 1). The site was originally identified through observation of artifacts on the surface of the field, but relatively little was known about this site and its relationship, if any, to the earthwork complex.

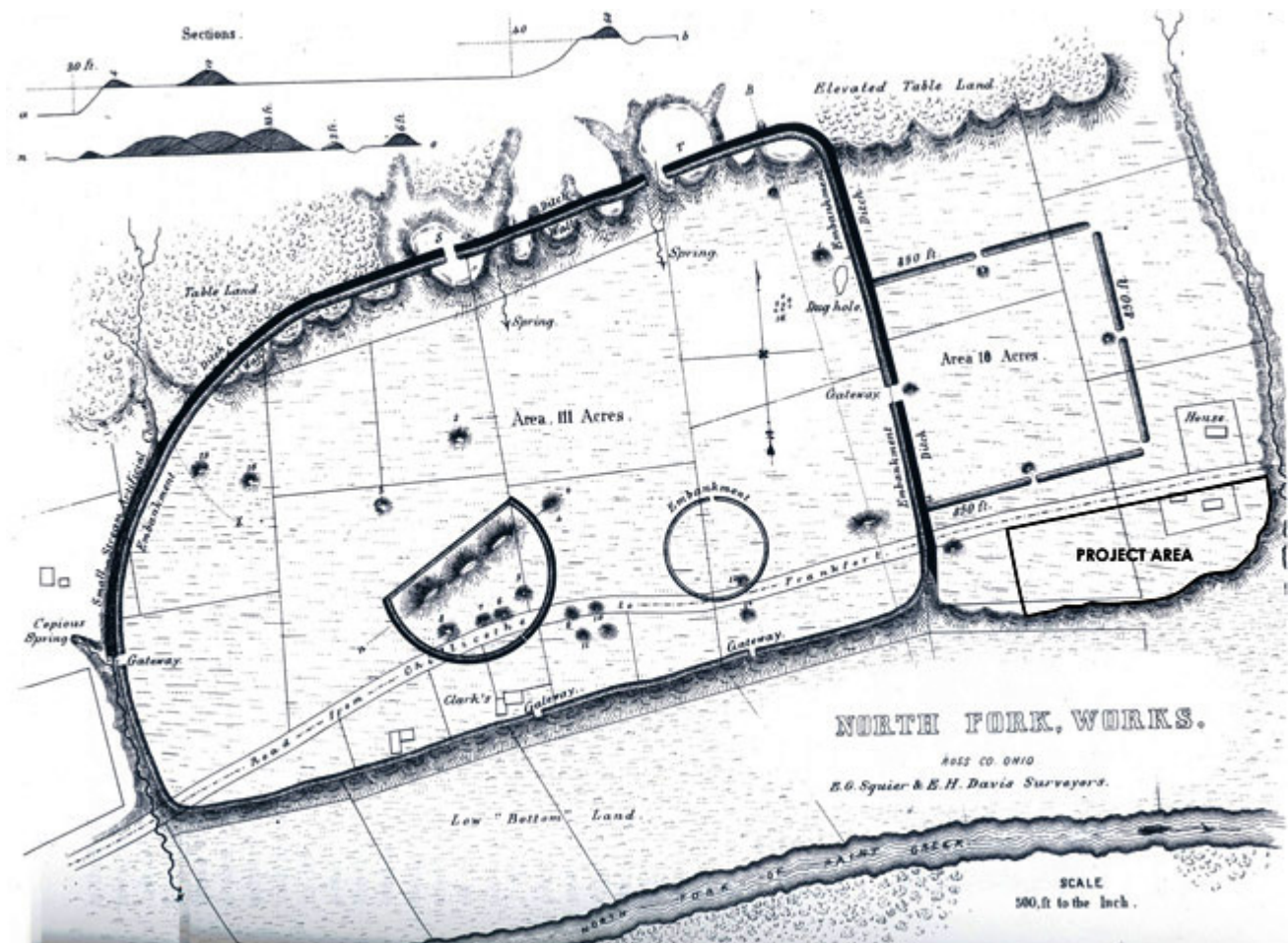


Figure 1 The Squier and Davis 1845 map of the Hopewell site, adapted from Squier and Davis (1998:Plate X). The project area is depicted north of Paint Creek.

Realizing the site might be in jeopardy, managers from Hopewell Culture National Historical Park began pursuing alternatives that would protect the site from further erosion and loss of archeological resources. One alternative would involve a construction approach where the bank would be mechanically stabilized; another, the no-construction alternative, would allow the erosion to continue but would involve the mitigation of adverse impacts through archeological data collection. Several strategies for mechanical stabilization were considered, all of which would involve substantial ground disturbance albeit to varying degrees. Under the no-construction alternative, archeological resources within the area expected to erode in the foreseeable future would be removed through excavation. Before the preferred alternative could be chosen, however, the resources at site 33RO1059 needed to be evaluated to determine not only site type, but whether or not the resources were significant and if the site had enough integrity to warrant protection.

Geophysical and Pedestrian Surveys

National Park Service archeologists from Hopewell Culture NHP and the Midwest Archeological Center began by conducting geophysical and pedestrian surveys. The survey area was confined to the open, previously cultivated portion of the field, encompassing about 2.2 hectares, and included any area that might be impacted by the erosion occurring along the southern end of the field or from construction-related ground disturbance (Figure 2). Forty-eight complete 20-x-20-m blocks and six partial 20-x-20-m blocks were surveyed using an FM 36 fluxgate gradiometer; three complete 20-x-20-m grids were surveyed with an EM 38 electromagnetic conductivity meter. In total area, about 21,600 m² were included in the geophysical survey. Results from the survey identified numerous anomalies in the data indicative of prehistoric subsurface features (De Vore and Bauermeister 2003).

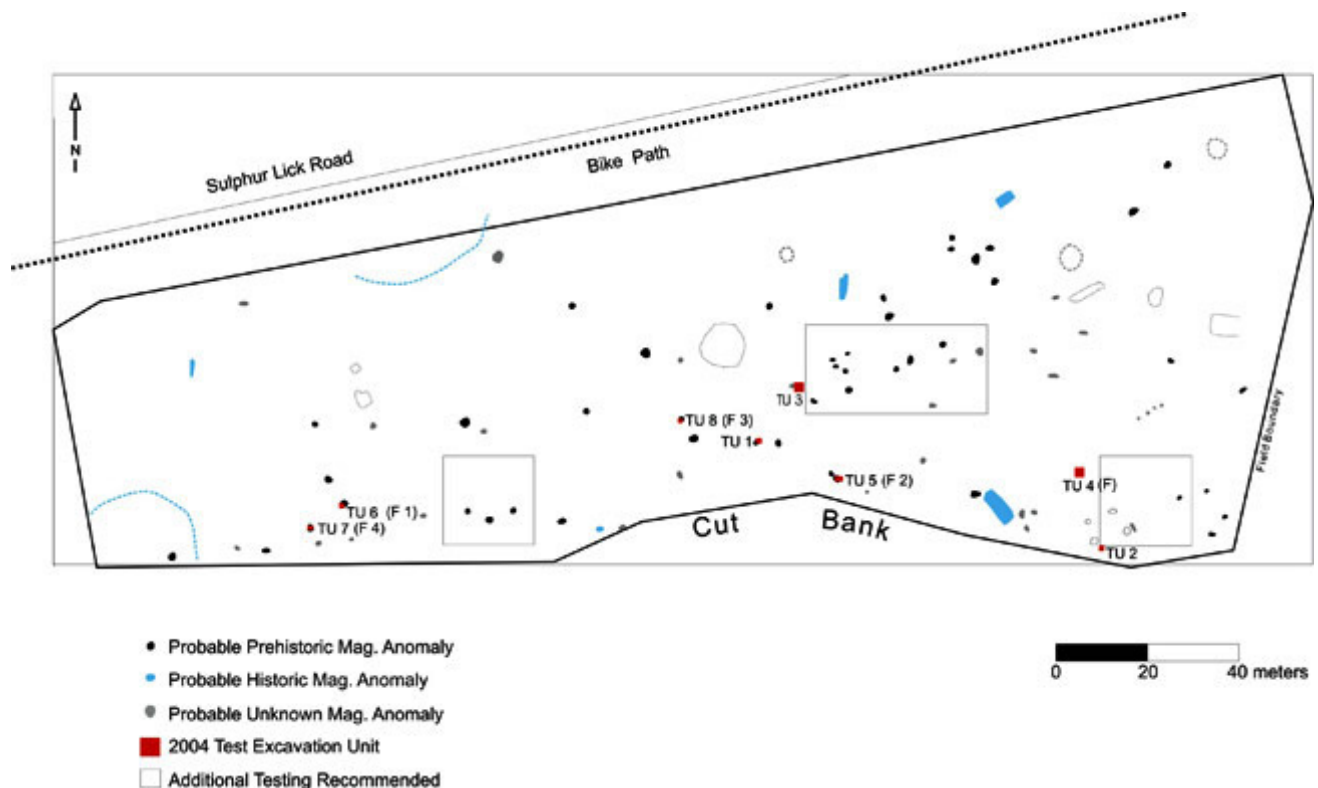


Figure 1 Map of project area, site 33RO1059, showing location of potential archeological features, test unit and feature locations, and areas slated for additional testing.

The pedestrian survey that followed was completed shortly after the project area was mowed and disked, which improved surface visibility to about 85 percent. In total, 341 artifacts were encountered and

mapped according to Global Positioning System position. Both prehistoric and historic materials were noted, but prehistoric materials were far more prevalent (308 compared to 33) and became the primary focus of this research; refer to Burks (2004) for details on the historic component. Fire-cracked rock was the most-represented artifact class and was widely scattered across the field, with a slightly heavier concentration in the western half of the project area. Additional prehistoric artifacts identified include debitage, pitted stones, bladelets, and an end scraper. These, too, occurred more regularly in the western half of the field with a specific cluster noted approximately in the center of the area. Hopewell artifacts were among those in the cluster and include two bladelets, a Vanport chert perform, and two quartz crystal flakes, giving this surface deposit a Middle Woodland affiliation.

Data obtained through the surface collection and mapping helped delineate site boundaries while documenting concentrations of prehistoric artifacts. Coupled with the geophysical survey data, this information proved quite useful in planning the next phase of work that would focus on excavations. Archeologists were effectively able to concentrate on specific areas having the greatest potential to yield information through subsurface deposits as predicted by these combined data. Fifteen locations were identified where the potential for buried prehistoric features was both highest and within the potential zone of impact (the width of the creek bend west to east and approximately 30 m north). The zone of impact was determined based on the amount of ground disturbance required by the construction alternatives and assumed the greatest possible extent.

Excavations

Archeologists returned to the site in April 2004 to conduct the excavations at the specified locations. At this time it was apparent that even more of the field had been lost to erosion just since the previous year. In fact, three of the test unit locations were now so close to the edge of the bank and the undercutting was so severe that excavation in this portion of the field was not feasible (Figure 3). In all, five 1-x-1-m test units (TUs 1, 2, 6–8) and three 2-x-2-m test units (TUs 3–5) were excavated at the site in 2004. All of the units yielded prehistoric materials, with five features (Features 1–4, and unassigned) identified in four of those units (TUs 4, 6–8). Features 1 and 3 yielded temporally diagnostic materials attributed to Late Woodland and Middle Woodland, respectively. They are discussed in more detail below. The unassigned feature and Feature 4 yielded prehistoric materials, but none from within the features themselves are culturally or temporally diagnostic. Hopewell bladelets were, however, recovered from the plowzone above Feature 4. Feature 2 was determined to be natural rather than cultural in origin.



Figure 3 Erosion along the southern edge of site 33RO1059.

Feature 1 was identified in TU 6 as a distinct and intentional intrusion dug into the surrounding subsoil, which in this field is a gravelly clay loam (Figure 4). As excavation continued, the feature began to take the shape of a basin and appears to extend to the north and to the east. Artifacts turned up consistently throughout the feature fill and include debitage, fire-cracked rock, pottery, two bladelets, and a triangular projectile point. The point and pottery are typical of Fort Ancient artifacts, giving Feature 1 a Late Woodland association.



Figure 4 Feature 1 in Test Unit 6.

Feature 3 emerged as a large, dark burned earth stain that encompasses the majority of TU 8 and extends well to the north, west, and east. Artifacts recovered included fire-cracked rock, burned bone, cord-marked pottery, debitage, and two copper fragments (Figure 5). Most of the pottery sherds are fairly small (2–3 cm in diameter), though larger sherds (5–8 cm in diameter) were recovered from deeper soils. One of the larger sherds exhibits a surface treatment similar to incised rocker-stamped. The discovery of copper fragments, particularly what appear to be remnant debris, is quite a rare and significant find and might provide a link between this site and 33RO27. Based on feature content, Feature 3 appears to be Hopewell in origin.

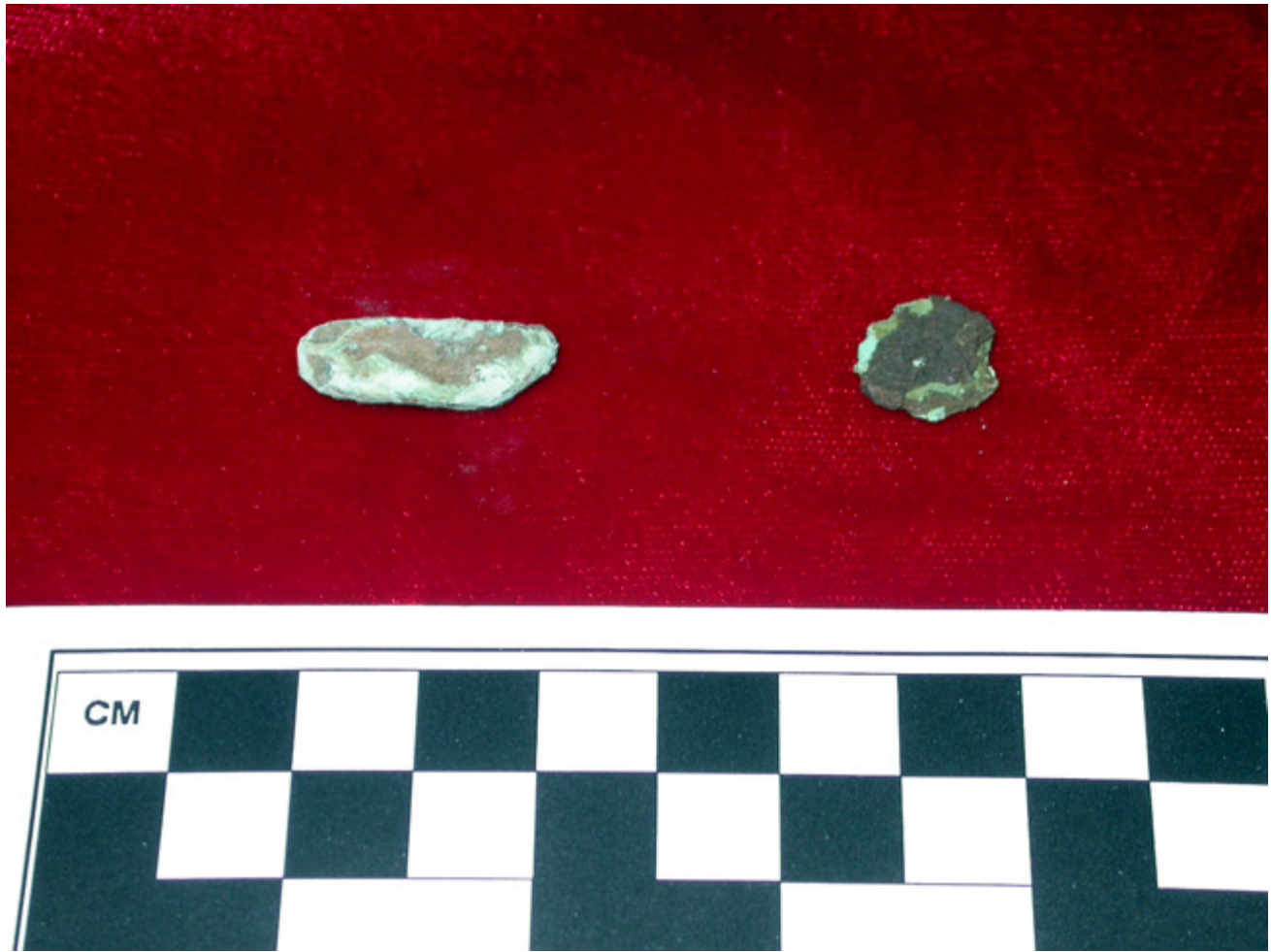


Figure 5 Copper debris recovered from Feature 3 in Test Unit 8.

Initial observations indicate that this is a habitation site that represents at least two temporal periods, Middle and Late Woodland, and perhaps several occupations. Of particular interest is the presence of copper debris. Copper is a rare find, and it is even more unusual to find copper debris that has merely been discarded and not reworked. The copper, the bladelets, and the cord-marked pottery are strong evidence for a Hopewellian occupation—perhaps one that is contemporaneous with events relating to the earthworks. The site has the potential to yield considerable data, which might help answer questions relating to the activities associated directly with earthwork construction and utilization.

Preservation Decisions

The findings verify that important resources are located within the field and that efforts to protect the archeological site from erosion should be pursued. Hydrology studies have determined that the flow of water along this curve of Paint Creek has slowed, and it is anticipated that at some point the erosion will slow or stop. The erosion is active at the toe of the bank, which is undercutting the upper bank and causing it to recede. In effect, the bank is attempting to stabilize itself by developing a more even slope. It follows, then, if the toe erosion were to stop, so too would the erosion along the upper bank that is impacting the site. The questions then become, how much would be lost, and is bank stabilization needed?

The mechanical bank stabilization would effectively prevent additional erosion from occurring, but a substantial portion of the site would be subjected to ground disturbance during construction. The

mitigation of construction impacts to the archeological resources would require extensive excavation of the site. Significantly less of the site would be impacted by the erosion, without any bank stabilization work, assuming the stream will erode at a certain rate over a defined period of time. The threatened resources could still be recovered through excavation and more of site would be left intact, providing future opportunities to learn from it.

The National Park Service chose the no-construction alternative as the most advantageous to protecting the archeological resources at the site. No mechanical bank stabilization will take place and the erosion will be allowed to continue. Additional and more extensive archeological excavations are set to begin in 2006 and will continue into 2007.

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